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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/690,940
Filing Date: October 22, 2003
Appellant(s): HATWAR ET AL.

Raymond L. Owens
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 31, 2006 appealing from the Office action mailed August 24, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed. (A set of claims was submitted with the request for reconsideration on November 23, 2005, but no changes or amendments were presented in the claim listing.)

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,091,196	CODAMA	7-2000
6,753,097	TOGUCHI	6-2004

(9) Ground of Rejection

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim 1 amendment adding the phrase "at least two" is considered to be new matter. It is not seen where the specification provides for an unlimited number of light-emitting layers, which the claim language "at least two" would include.

Claims 1, 5, 13, and 17-19 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Codama (US 6,091,196). Codama discloses electroluminescent devices emitting white light that may have a blue light emitting layer and a yellow light emitting layer (see col. 16, lines 29-34). Codama fails to teach an *example* comprising perylene; however, Codama does teach a fluorescent substance is included within the light emitting layer such as perylene derivatives (see col. 11, line 64 to col. 12, line 11). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected a perylene derivative for making an electroluminescent device, because Codama generally teaches that perylene derivatives are materials that may be used as the fluorescent substance of the device. Per instant claim 5, Codama further teaches a hole injecting and transporting layer is included in the device (see col. 11, lines 42-49) and a yellow light emitting layer may be included (see col. 16, lines 29-31). Per instant claim 13, Codama further teaches an electron transporting layer that may be provided separately from the light emitting layer (see col. 12, lines 19-28). Per instant claims 17

and 18, Codama teaches the hole transporting layer should be in contact with a light emitting layer (see col. 11, lines 42-45). Per instant claim 19, Codama teaches rubrene or perylene (see col. 12, lines 2-5) as a fluorescent material and that the fluorescent material for the light emitting layer(s) is desirably in a concentration from 0.1 to 10% (see col. 16, lines 38-41). The present specification on page 28 discloses an amount of perylene dopant that is considered non-luminescent is less than 5% by weight and Codama clearly teaches fluorescent material added at a concentration lower than 5% by weight of the light emitting layer. Codama is deemed to teach fluorescent material in the light emitting layer within the range defined by applicant to be non-light emitting.

Claims 2-4, 6-8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Codama (US 6,091,196) in view of Toguchi et al. (US 6,753,097). Codama teaches perylene derivatives as the fluorescent material of the light emitting layer (see col. 11, line 64 to col. 12, line 11), but fails to teach expressly the specific perylene derivatives of claims 2-4, 6-8, and 20. Toguchi et al. teaches in analogous art perylene derivatives for the light emitting layer of an organic electroluminescent device according to formula C1 (see abstract). Any one of R^5 to R^{12} may combine to form a ring, which would include benzoperylene, dibenzoperylene, and tribenzoperylene (see col. 3, lines 58-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected one of benzoperylene, dibenzoperylene, or tribenzoperylene for the perylene derivative of the Codama device, because Toguchi et al. teaches the perylene derivatives are suitable for a light emitting layer of an organic electroluminescent device.

(10) Response to Argument

35 U.S.C. 112, first paragraph rejection

Appellant argues that the limitation "at least two" light emitting layers should be read in the context of the level of knowledge in the relevant art in order to determine whether it conveys to one skilled in the art that the inventors had possession of the claimed invention at the time of the filing. Appellant states that the specification shows an example in which two layers are used to produce a white-light emitting device. The examiner agrees the specification supports two light emitting layers in a device, but does not support "at least two" light emitting layers, which allows for an unlimited number of light emitting layers. The scope of the claim limitation, "at least two", is not supported by the specification.

35 U.S.C. 103(a) rejection over Codama (U.S. Patent No. 6,091,196)

Appellant argues the present claims do not use perylene derivatives as the "fluorescent substance". The examiner submits that Codama describes the materials such as perylene and rubrene as "**fluorescent substance**" (see col. 12, lines 3-6) and this is how they are commonly described and known in the art. In fact, even applicant describes perylene and perylene derivatives as "**fluorescent dopant**" in their description (see present specification page 14 starting at line 14 through page 18). Appellant's primary argument is that their perylene does not emit light according to their own definition, while the perylene of Codama does emit light. It is the position of the examiner that both appellant and Codama set forth the same fluorescent substance, perylene and perylene derivatives, in a light emitting layer. In addition, both applicant and Codama set forth the fluorescent substances such as perylene in the same concentration range in a light emitting layer. Appellant sets forth amounts less than 5% of a layer as being non-light emitting. Codama clearly sets forth the addition of fluorescent substances such as

perylene or rubrene and their derivatives in an amount of 0.1-10% by weight. The concentration range of fluorescent substance taught by Codama clearly encompasses the range defined by applicant as non-light emitting. In addition, applicant does not appear to have a conventional definition of "emits no light". One would think this definition would allow absolutely no light to be emitted by the fluorescent substance; however, appellant's data in the specification clearly shows a shift in CIE chromaticity coordinates by these alleged non-light emitting perylene derivatives. Table 5 of the specification (see page 34) shows comparative Example 25 comprising no fluorescent dopant and an inventive example 26 comprising 2.5% dopant. The CIE coordinates are different for the comparative example 25 and the inventive example 26. It would appear that some sort of color change occurs when the dopant is added in an amount of 2.5%, which is contrary to what one would expect with an entirely non-emitting substance.

Appellant argues although the examiner states that the fluorescent material of Codama is present in the light emitting layer within the range disclosed by applicant, "[t]he amount of dopant that must be added to the layer in order for that layer to emit light differs for *each* compound." The examiner submits that appellant does not discuss a teaching or clear data in their specification to support this statement. The only concentration teaching in the present specification is a range of less than 5% for the fluorescent substance to be non-light emitting as defined by appellant. This range of fluorescent material is clearly taught by Codama. If appellant is attempting to argue that the host material of the light emitting layer or other features of the device would result in a different appropriate concentration range for the fluorescent material other than 5% or less, appellant has not presented clear data or support that the

properties of the additional Codama materials are different from those used by appellant. The claimed subject matter has not been clearly distinguished over the prior art.

Appellant sets forth in the Appeal Brief a discussion of the interview on November 15, 2005 between the examiner and appellant's representative. The examiner at that time questioned how the same compounds (perylene and perylene derivatives) at the same concentrations (both at 5% or less) would not result in a demonstration of the same or similar property of light emission. It appears to the examiner that appellant is trying to assign a new property description to a material which is the same as a material of the prior art. Recitation of a newly disclosed property does not distinguish over a reference disclosure of the article or composition claims. *General Electric v. Jewe Incandescent Lamp Co.*, 67 USPQ 155. *Titanium Metal Corp. v. Banner*, 227 USPQ 773. Applicant bears responsibility for proving that reference composition does not possess the characteristics recited in the claims. *In re Fritzgerald*, 205 USPQ 597, *In re Best*, 195 USPQ 430. The examiner maintains appellant has not provided clear evidence their perylene-containing devices do not demonstrate the same properties as a device rendered obvious by Codama.

35 U.S.C. 103(a) rejection over Codama in view of Toguchi (U. S. Patent No. 6,753,097)

Appellant states "Toguchi does not overcome the failure of Codama to suggest amounts of perylene derivatives that do not emit light." The examiner submits the secondary reference, Toguchi, is relied upon for teaching specific perylene derivatives not expressly taught by the primary reference, Codama. The examiner maintains the rejection over Codama for the reasons previously set forth in this Examiner's Answer.

In conclusion, the examiner submits that the prior art renders obvious the present device. Both the prior art and appellant disclose the same concentrations for the fluorescent substances of the devices. The only difference noted by the examiner is that appellant describes this concentration as emitting "no light"; however, since both the prior art and appellant's devices comprise the same fluorescent substance (perylene and perylene derivatives) in the same amount and they would demonstrate a similar light emitting property. In addition, the examiner emphasizes appellant's own definition of "no light" emission includes an example where the fluorescent substance, perylene derivative, actually shifts CIE chromaticity coordinates when compared with a device without the fluorescent substance (see Table 5).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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